

REMARKS

Claims 1-4 and new Claims 5-15 are active in the case. Favorable reconsideration of this application is requested.

The present invention relates to an electroconductive silicone pressure-sensitive adhesive composition.

Claim Amendments

Claims 1-4 have been amended in order to make minor editorial changes thereto, None of the amendments introduces new matter into the claims.

New Claims 5-15 have been presented. Support for Claims 5 and 6 can be found on page 10, lines 13-14, while support for Claim 7 can be found in the paragraph bridging pages 14 and 15 and support for Claim 8 can be found on page 15. Support for Claim 9 can be found on page 9, lines 27-29 and for Claim 10 on page 18, lines 27-30. Claim 11 is supported by page 19 and Claim 12 is supported by page 6. Claim 13 is supported by page 8, lines 23-24 and Claim 14 by page 9, lines 18-19. Claim 15 is supported by page 12 of the text. None of the new claims introduce new matter into the case. Entry of the amendments and new claims into the record is respectfully requested.

Invention

The present invention is directed to an electroconductive silicone pressure-sensitive adhesive composition that comprises (A) 100 parts by weight of an organopolysiloxane having the average formula (1):



wherein R is independently a substituted or unsubstituted monovalent hydrocarbon radical having 1 to 10 carbon atoms, and "a" is a positive number of 1.95 to 2.05, (B) 50 to 250 parts by weight of an organopolysiloxane comprising structural units of the formula (2):



wherein R¹ is independently a hydroxyl radical or a substituted or unsubstituted monovalent hydrocarbon radical having 1 to 10 carbon atoms and SiO_{4/2} units, in a molar ratio (R¹₃SiO_{1/2})/(SiO_{4/2}) ranging from 0.5 and 1.2, (C) 3 to 300 parts by weight per 100 parts by weight of components (A) and (B) combined of an electroconductive powder comprising core particles of an inorganic material or organic resin which are surface coated with a layer of a silicon-base polymer having reductive effect or a partially or entirely ceramic layer thereof, which is in turn surface coated with a metal by plating, and (D) an effective amount of a crosslinking agent to cure component (A).

Prior Art Rejection

Claims 1-4 stand rejected 35 USC 103(a) as obvious over JP 63-022886 or JP 01-287169 either in view of Fukushima et al, U. S. Patent 6,485,831. This ground of rejection is respectfully traversed.

As described on page 2 of the specification, the cited JP-22886 reference discloses a heat resistant, pressure sensitive silicone adhesive. The particular pressure-sensitive adhesive disclosed in the reference is a polysiloxane that contains Me₃SiO_{1/2} units and SiO_{4/2} units, known as an MQ resin. There is no teaching or suggestion of the incorporation of any type of particulate electroconductive material therein.

As also described on page 2 of the specification, the cited JP-287169 reference discloses a pressure-sensitive adhesive that contains an electroconductive powder that has a high specific gravity. In such compositions the powder ingredient tends to separate from the

silicone component which renders the composition poorly conductive. The '169 reference attempts to overcome this problem by introducing an organic solvent into the composition in order to provide a silicone based pressure-sensitive adhesive composition of reduced viscosity build-up and which is more efficient. However, this approach has its inadequacies. Accordingly, the primary references do not suggest the invention as claimed.

The Fukushima et al reference has been cited because it discloses a conductive powder having an organic silicon polymer layer on the surfaces of the particles, and a metal layer that encloses the silicon polymer layer. This conductive powder is said to useful as a component in a wide range of compositions. However, it must be observed that the U. S. patent is commonly owned with the present application and has inventor Fukushima of the present application as an inventor. (A copy of the assignment of the Fukushima et al patent to Shin-Etsu Chemical Co. is enclosed.) Since the present application was filed after November 29, 1999, the patent falls within the scope of section (c) of 35 USC 103 and therefore is a patent which does not preclude patentability of the present application. Accordingly, in view of the discussion above, it is believed that the obviousness ground of rejection fails and withdrawal of the prior art ground of rejection is respectfully requested.

Application No. 10/652,074
Reply to Office Action of April 26, 2005

It is submitted that this application is now in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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